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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,194	09/29/2000	Gary D. Zimmerman	MP0965 (13036/4)	1444

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EXAMINER	
PHAM, THIERRY L	

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/675,194	ZIMMERMAN, GARY D.	
	Examiner	Art Unit	
	Thierry L. Pham	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-14,21-33 and 36-42* is/are pending in the application.

4a) Of the above claim(s) *1-8 and 21-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-10,12-14,30-33 and 36-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- This action is responsive to the following communication: RCE filed on8/21/06.
- Claims 9-10, 12-14, 30-33, 36-42 are being considered; claims 1-8, 21-29 have been withdrawn from consideration; claims 11, 15-20, and 34-35 have been canceled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/21/06 has been entered.

Response to Arguments

Applicant's arguments, see pages 7-10, filed8/21/06, with respect to the rejection(s) of claim(s) 30 under 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art references.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 30-33, 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young No (US 6587140) and Zelno et al (US 5989051).

Regarding claim 30, Young No discloses a printer controller (printer controller incorporated within PC card 7, figs. 1-2, col. 2, lines 1-37 and col. 4, lines 39-62) configured to receive the printer controller ready data (image data from external device, fig. 1, col. 2, lines 1-38) from the printer controller ready data interface and to generate the print engine ready data (converting to print ready format, col. 4, lines 39-42) for transmission to the print engine ready data interface.

However, Young No fails to teach and/or suggest a single continuous cable incorporating a PC card. In other words, Young No fails to teach and/or suggest a PC card 7 (which also includes a printer controller) is disposed within a single continuous cable, wherein a continuous cable is having a first connector and second connector.

Zelno, in the same field of endeavor for PC card, teaches a well-known example of a single continuous cable (cable 10, fig. 1) incorporating a PC card (PC card disposed within a single continuous cable, fig. 1, col. 3, lines 35-40 and col. 4, lines 13-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify invention (i.e. PC card 7) of Young No to disposed within a single continuous cable as taught by Zelno because it prevents PC card from damaging from constant pulling (col. 3, lines 20-25 of Zelno) and to reduce electromagnetic transmission that a PC card may interfere with other circuits or devices (col. 4, lines 13-25 of Zelno).

Therefore, it would have been obvious to combine Young No with Zelno to obtain the invention as specified in claim 30.

Regarding claim 31, Young No further teaches: a cable format conversion mechanism for converting signals (signals conversion, col. 4, lines 39-42) in a first format into corresponding signals in a second format, the cable format conversion mechanism within the single continuous cable.

Regarding claim 32, Young No further teaches: a multiple target device support mechanism for support at least two different types of target devices (col. 3, lines 34-35), the multiple target device support mechanism within the single continuous cable.

Regarding claim 33, Young No further teaches the multiple target device support mechanism further comprises:
a laser printer interface for providing an interface to a laser printer (col. 3, lines 34-35);
a non-impact printer interface for providing an interface to a non-impact ink printers (col. 3, lines 34-35); and
a common formatting circuit coupled to the laser printer interface and the non-impact printer interface for providing functions to the laser printer interface and the non-impact printer interface (PC card 7 is compatible with plurality of different types of printers, col. 3, lines 34-35).

Regarding claim 36, Zelno further teaches wherein ready data interface comprises one of an industry standard computer port interface (col. 3, lines 39-40), a parallel port interface, a serial port interface, IEEE 1284 parallel port interface, a USB serial port interface, and an Ethernet interface.

Regarding claim 37, Zelno further teaches print engine ready data interface comprises one of a parallel port interface (col. 3, lines 39-40), a serial port interface, an IEEE 1284 parallel port interface, a USB serial port interface, an Ethernet interface, and a custom interface.

Regarding claim 38, Young No further teaches wherein the printer controller comprises a printer controller program (col. 4, lines 39-42) for generating the print engine ready data, the printer controller program stored in a memory consisting of volatile memory (EEPROM 96, col. 4, lines 39-42).

Regarding claim 39, Young No further teaches wherein the printer controller is configured to send commands (col. 4, lines 65-67) to a print engine, to receive a status signal from the print engine in response to the commands sent, and to transfer the print engine ready data to the print engine after receiving the status signal.

Regarding claim 40, which recite limitations that are similar and in the same scope of invention as to those in claim 30 above; therefore, claim 40 are rejected for the same rejection rationale/basis as described in claim 30.

Claims 9-14, 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young No and Zelno as applied to claim 30 above, and further in view of Hirst et al (US 5930553).

Regarding claim 9, combinations of Young No and Zelno fail to teach and/or suggest a dynamic loading program for causing the processor to automatically manage download of the controller program from a source to the volatile memory.

Hirst teaches a well-known example of dynamic loading program for causing the processor to automatically manage download (automatically detecting new/updated version of printer controller software, col. 4, lines 45-67 and to performs automatically without human intervention, col. 2, lines 40-50) of the controller program from a source to the volatile memory.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify PC cards of Young No and Zelno to include a dynamic loading program for causing the processor to automatically manage download of controller program as taught by Hirst because it enhances the printer's operating efficiency and to improve output quality performance by updating new controller programs, and in addition, performs downloading and managing automatically without human intervention help reduces personnel costs.

Therefore, it would have been obvious to combine Young No and Zelno with Hirst to obtain the invention as specified in claim 9.

Regarding claim 10, Hirst further teaches wherein the dynamic loading program, determines whether a current version of the printer controller program resident in the volatile memory is not valid (prior to download the new/updated version of printer controller program, the printer controller 13 must determine and test whether the stored

programs are valid, fig. 5, col. 2, lines 32-55), and selectively downloads from a host computer the printer controller program to the volatile memory of the printer controller if the current version of the printer controller program is not valid.

Regarding claim 12, Hirst further teaches wherein the printer controller program, when executing on the processor, receives print controller ready data and based thereon generates print engine ready data for controlling a print engine (printer controller 13 provides print engine ready data and transmits provided data to print engine, fig. 1, col. 4, lines 30-35).

Regarding claim 13, Hirst further teaches: an integrity check module (printer controller including a micro-controller 30, fig. 1), when executing on the processor, for performing an integrity check on the printer controller program to determine whether the printer controller program is corrupted and re-installing the printer controller program from the source when the printer controller program is not corrupted (installing a new/updated version of printer controller program if the old printer controller program is incompatible and/or valid, fig. 5).

Regarding claim 14, Young No further teaches wherein the printer controller is embodied in one of a single integrated circuit (ASIC, col. 5, lines 5-6) and an application specific integrated circuit.

Regarding claim 40: Young NO teaches a means for storing in a volatile memory (EEPROM, fig. 2 of Young No) a printer controller program (col. 4, lines 40-43) that generates the print engine ready data from the print controller ready data; and
means for automatically managing download (see fig. 5 of Hirst for details) of the printer controller program to the volatile memory.

Regarding claim 41, Hirst further teaches the means for automatically managing download determines whether a current version of the printer controller program resident in the volatile is not valid (installing a new/updated version of printer controller program if the old printer controller program is incompatible and/or valid, fig. 5) or non-existent, and downloads the printer controller program to the volatile memory of the printer controller if the current version of the printer controller is not valid or non-existent.

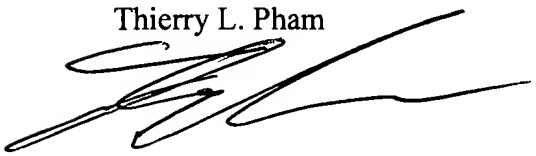
Conclusion

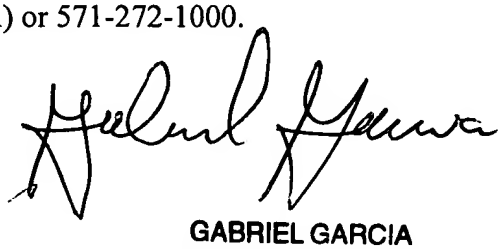
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thierry L. Pham whose telephone number is (571) 272-7439. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thierry L. Pham





GABRIEL GARCIA
PRIMARY EXAMINER